TRANSMITER AND RECEIVER PAIR

XFO4001TRS SERIES

TRANSMITER : XFO4001TS / XFO4001TM

RECEIVER : XFO4001RS / XFO4001RM

4-CHANNEL DIGITALLY ENCODED VIDEO

MULTIPLEXER

USER'S MANUAL

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GENERAL INFORMATION

Introduction:

The Tiandy TC-FD4001T/R Series video and data transmitter and receiver support simultaneous transmission of four channels of 8-bit digitally encoded video over one multimode and single-mode optical fiber. Plug and Play design ensures the ease of installation and electronic and optical adjustments are never required.

Model Number

Unit Type	Model Number
Four-channel Digitally Encoded Video Transmitter	TC-FD4001T
Four-channel Digitally Encoded Video Receiver	TC-FD4001R

Technical Specifications:

VIDEO

Video Input：	1 volt pk-pk (75 ohms)
Input/Output Channels：	4
Bandwidth：	5 Hz - 8 MHz
Bit Resolution：	8-bit
Differential Gain：	< 2%
Differential Phase：	< 0.6°
Tilt：	< 1%
S/N Ratio：	67dB (Weighed)

WAVELENGTH	850/1310nm Multimode 1310/1550nm Singlemode
OPTICAL EMITTER:	Laser Diode
NUMBER OF FIBERS	1

CONNECTORS

Optical：	ST
Video：	BNC

GENERAL

Power Supply：	DC12V @ 600mA
Size：	195mm x 191mm x 36mm
Construction：	Aluminum
MTBF：	> 100,000 hours
Operating Temp：	-30℃ to +50℃
Storage Temp：	-40℃ to +85℃
Relative Humidity：	0% to 95% (no condensing)

INDICATOR

Module

Blue：	Video Sync Present
Orange：	Power On

OPTICAL POWER BUDGET

Optical transmission distance is limited to optical loss of the fiber and additional loss caused by connectors, splices, and patch panels.

Fiber	Wavelength	Transmitter		Receiver		Optical Power Budget	Max Distance
		Model	Output	Model	Sensitivity		
Singlemode	1310nm	TC-FD 4001TS	-5 dBm	TC-FD 4001RS	-26 dBm	21 dB	30km
Fiber	Wavelength	Receiver		Transmitter		Optical Power Budget	Max Distance
		Model	Output	Model	Sensitivity		
Multimode	850nm	TC-FD 4001RM	-6 dBm	TC-FD 4001TM	-22 dBm	16 dB	3km

CAUTION!
The transmitter unit contains a laser-emitting diode located in the optical connector. This device emits invisible infrared electromagnetic radiation that can be harmful to human eyes. The radiation from this optical connector, if viewed closely without any protection, may cause instantaneous damage to the retina of the eye. Direct viewing of this LED should be avoided at all times.

INSTALLATION INSTRUCTIONS

Installation Procedure

The Tiandy TC-FD4001T/RS video transmission systems series are preset for immediate use. There are indicator LEDs on the units for monitoring the real-time status of video, data and power. The following instructions describe the typical installation procedure and the function of the LED indicators located on each unit.

1. Connect the video source (camera) to the video input BNC connector on the transmitter unit using coaxial cable.
2. Connect the video output BNC connector on receiver unit to the video monitor using coaxial cable.

3. Connect the fiber optic cable between the transmitter and receiver
4. Apply the power supply to both the transmitter and receiver
5. When the power is applied, the orange POWER LED will light, indicating the presence of operating power. The blue VIDEO LED will give an indication as stated in the following page.
6. The system should now be operational.

Indicator LEDs

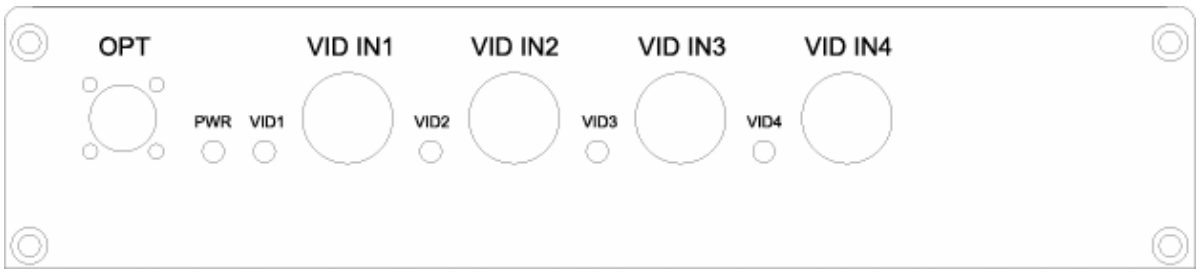
The stand-alone units have integral LEDs that are used to monitor the state of the unit. There are four video LEDs, one power LED and one data LED on each unit. One, labeled as “PWR”, lights when operating power is present. Another labeled as “VID1, VID2, VID3, VID4”, lights when the video input/output signals are detected. As shown in the diagram in the following.

TRANSMITTER and RECEIVER:

Power: ON: (Orange) Indicates that correct power has been applied

Transmitter:

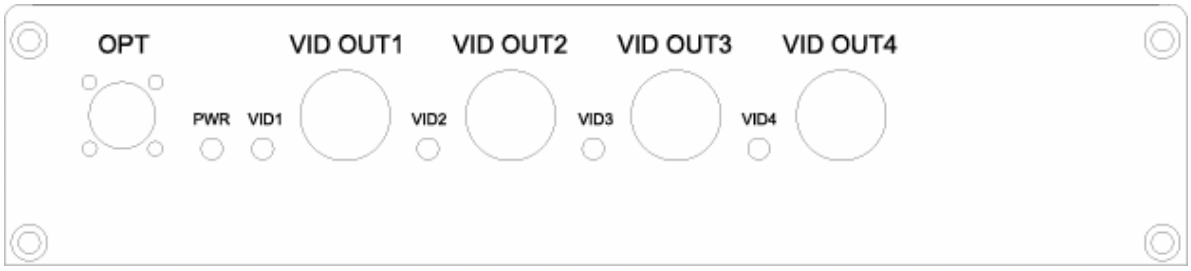
Video: OFF: Indicates no video detected on input BNC connector
(No Video present on input BNC)
ON: (blue) Indicates video detected on input BNC connector
(Video present on input BNC)



***Front panel of TC-FD4001T (Transmitter)**

Receiver:

Video: OFF: Indicates no video present on output BNC connector
(No Video present on output BNC)
ON: (Blue) Indicates video detected on output BNC connector
(Video present on input BNC)



***Front panel of TC-FD4001R (Transmitter)**

TROUBLESHOOTING

Optical Fiber

The Tiandy TC-FD4001T/RS Series is available with most applications using multimode or singlemode optical fibers. Please be certain that the correct size and type of the fiber is being used for the particular mode transmitter/receiver combination.

Also be certain that the attenuation and bandwidth of the fiber optic cable being used is within the range of the system's loss budget specifications.

General

Any dirt or dust may easily pollute or block the fiber from accepting or radiating light. Therefore, please try to keep the optical connector clear and always use the dust caps whenever the connector is exposed to air. It is suggested that the tip of the optical connected should be carefully cleaned with a lint-free cloth moistened with alcohol from time to time.

The status of any of the VIDEO LED should provide the first clue as to the origin of any operational failure. If the VIDEO LED on the receiver unit is off, it usually means that the fiber is broken or has too much attenuation.

Please also make sure that the transmitter and the receiver are not used in opposite position

If the system is still not working after examining the above possibilities, please contact our Customer Service Department for further assistance

LIMITED WARRANTY

Tiandy Tech guarantees two (2) year repair at no charge and lift-time maintenance at prevailing rate from the date of delivery.

Tiandy Tech series products are warranted to be free from defects in materials or workmanship for one year from the date of retail purchase. We reserve the final right to judge the malfunction of the products.

What is not covered by this warranty:

- Over one-year warranty period
- No warranty maintenance for appearance failure
- Damage incurred in transportation, loading & unloading or carrying.
- Damage resulting from any product modification, alteration or adjustment not authorized by Tiandy Tech
- Damage from misuse, abuse, accident and unsuitable physical and operating environment.
- Maintenance of the accessories such as fuse, one-off battery etc.
- Damage from acts of God such as fire, earthquake, lightning, flood etc.

Tiandy Tech reserves the right of final interpretation and modification to the above items. All the warranty information stated above is subject to change without notice.